SITE SPECIFIC ALTERNATIVE PRACTICE
CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	MacDonald Pass ~ Montana D.O.T. Project
Proposed Implementation Date:	February 6, 2008
Proponent:	Robert Lewis, Cat Tracks, Inc.
Location:	T9N, R6W, Sec. 1&2 and T10N, R6W, Sec. 36
County:	Lewis & Clark
Land Owner:	USFS Stumpage, Montana D.O.T. Right-of-Way
HRA #:	N/A, Public Lands

I. TYPE AND PURPOSE OF ACTION

A. **Type of Action: SMZ Alternative Practice:**

Proponent is requesting an SMZ Alternative Practice to Rule 4: (36.11.304), *Operation of Equipment in the SMZ*, to remove lodgepole pine and Douglas-fir trees that are in the highway right-of-way at three locations near MacDonald Pass. Objective for this project is to remove shade-casting trees from the right-of-way, South of State Highway 12. By doing so it would provide longer periods in which direct sunlight is cast upon the roads surface during winter months, reducing the amount of accidents and increasing safety.

B. **Purpose of Action: Timber Harvest**

Montana D.O.T. has put forth a timber sale to harvest trees with in the right-of-way, in three different units south of State Highway 12. This action would cut approximately 50 MBF of rough forest products from within the 33-foot easement.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

USFS, Montana Fish, Wildlife, and Parks, Army Corps of Engineers, Department of Natural Resources and Conservation, and the Montana D.O.T. have participated in several field evaluations of this site. Mitigation measures to reduce environmental impacts have been discussed with alternatives inserted into project documents.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Robert Lewis, proponent, as well as the Montana D.O.T. have obtained necessary permits from the Army Corp of Engineers and others when applicable.

3. ALTERNATIVES CONSIDERED:

3.1 Alternative "A": Not approve Alternative Practice (No Action)

Proposed SMZ Alternative Practice would not be approved and the proposed forest management and harvesting actions would be abandoned.

3.2 Alternative "B": Alternative as Proposed

Allow SMZ Alternative Practice with mitigation measures as described below at five locations as outlined on the MacDonald Pass ~ D.O.T. Project Map.

Harvest Unit 1:

- ***Location "A":*** Because this stream segment does not support fish; normally has surface flow during less than 6 months of the year; and rarely contributes to another stream, lake or other body of water, it has been determined to be a Class 3 stream segment.

  As an alternative practice without site specific approval to Rule 4: (36.11.304), Equipment Operation in the SMZ, an operator is allowed to cross the SMZ with a wheeled or tracked machine on a class 3 stream segment at locations spaced approximately 200 feet apart or more provided that:

  (a) Crossings are located in areas where the stream or other body of water is dry and the banks and bottoms are stable;

  (b) Excavation is minimized;

  (c) The distance traveled through the SMZ is minimized.

  Retention of Trees in the SMZ/Clearcutting, Rule 5: (36.11.305), subsection 2(c) states that on each side of a class 3 stream segment, shrubs and sub-merchantable trees must be protected and retained in the entire SMZ to the fullest extent possible when conducting forest practices in the SMZ.

  A Site-specific Alternative Practice as defined by Rule 10: (36.11.310) ***is not required*** at this location.

- ***Location "B":*** This portion of stream segment has been identified as a Class 2. Two examples of Class 2 stream Segments are:

  (a) A portion of stream which does not support fish; normally has surface flow during less than 6 months of the year; and contributed surface flow to another stream, lake or other body of water.

  (b) A portion of stream that does not support fish; *normally has* surface flow during six months of the year or more; *and does not contribute* surface flow to another stream, lake or other body of water.

  Retention of Trees in the SMZ/Clearcutting, Rule 5: (36.11.305), subsection 2(b) states that on each side of a class 2 stream segment retain 50% of the trees greater than or equal to 8 inches dbh, or 5 trees greater than or equal to 8 inches dbh in each 100 lineal feet of the SMZ, whichever is greater.

  (a) If less than 5 trees greater than or equal to 8 inches dbh are present in any 100 lineal foot segment of the SMZ, then a minimum of 5 trees of the largest diameter available must be retained in that segment.

  (b) Trees retained must be representative of the species and size of trees in the pre-harvest stand; and

  (c) Shrubs and sub-merchantable trees must be protected and retained in the entire SMZ to the fullest extent possible when conducting forest practices in the SMZ.

A Site-specific Alternative Practice as defined by Rule 10: (36.11.310) ***is required*** at map location "B". An Alternative Practice to Rule 4: (36.11.304), Equipment Operation in the SMZ would be allowed provided the following mitigation measures are adhered to:

(1) All harvesting would take place during snow covered, frozen ground conditions, which normally takes place between December 15th and March 15th each year.

(2) A snow/ice bridge would be constructed in/over the stream channel to protect the bed and banks. If the "Ice Bridge" begins to break-up from use, a log bundle may be placed in the stream channel for protection. Logs used would be large diameter and of suitable length so as to be secure while in use.

All material placed in the stream channel and accumulated debris at the crossing location would be removed immaterially upon completion of harvesting or prior to March 15th, which ever came first.

(3) Crossing of the stream channel would be at a 90º angle for a distance of 35 feet on either side to prevent unwanted damage to the SMZ. Entrance an exit into the SMZ would be as quick as possible using the criteria listed above.

(4) Trees that may fall across the stream channel as part of the logging operation would need to be fully suspended when removing to prevent damage to the streambed and banks. Limbs, branches, and other debris that may fall into the stream channel should be removed immediately.

(5) Any locations that have soil disturbance would require grass seeding with approved seed mixtures to reduce potential sediment runoff.

(6) Soil rutting in excess of 1 inch would not be allowed. Logging contractor must be aware of site conditions at all times, being proactive in his/her decision making to prevent rutting.

If the ground is soft, measures to solidify the area would be taken. Using a tracked machine with low ground pressure/sq inch to trample the snow down without rutting, should drive the frost into the ground. Operating during cooler morning periods may me necessary to prevent ground break-up as well.

(7) If sediment delivery to the stream channel is possible due to soil disturbance along the skid trail, a slash-filter wind-row would need to be constructed. This slash-filter wind-row would be at a 90º angle to the skid trail, and parallel the ordinary high water mark at a distance of 10 feet.

In addition, a sufficient amount of slash and other debris would be placed on top of the skid trail for a distance of 35 feet in either direction from the stream channel. The slash would be trampled to make sure it was in contact with the ground, acting as an effective sediment filter.

(8) Forest products would be decked, and slash placed outside the SMZ to reduce impacts to the soil and vegetation.

Harvest Unit 2:

- ***Locations "C" & "D":*** Both locations have been determined to be Class 2 stream segments. Please see above definition of a class 2 stream segment, and associated tree retention requirements.

A Site-specific Alternative Practice as defined by Rule 10: (36.11.310) ***is required*** at map locations "C" & "D". An Alternative Practice to Rule 4: (36.11.304), Equipment Operation in the SMZ would be allowed provided the following mitigation measures are adhered to:

(1) All harvesting would take place during snow covered, frozen ground conditions, which normally takes place between December 15th and March 15th each year.

(2) Trees that may fall across the stream channel as part of the logging operation would need to be fully suspended when removing to prevent damage to the streambed and banks. Limbs, branches, and other debris that may fall into the stream channel should be removed immediately.

(3) Any locations that have soil disturbance would require grass seeding with approved seed mixtures to reduce potential sediment runoff.

(4) Soil rutting in excess of 1 inch would not be allowed. Logging contractor must be aware of site conditions at all times, being proactive in his/her decision making to prevent rutting.

(5) If sediment delivery to the stream channel is possible due to soil disturbance along the skid trail, a slash-filter wind-row would need to be constructed. This slash-filter wind-row would be constructed parallel the stream channel and at a distance of 10 feet.

(6) Forest products would be decked, and slash placed outside the SMZ to reduce impacts to the soil and vegetation.

(7) Crossing the stream channel at both locations should not be necessary as the skid trail would go above the culvert on stable ground.

Harvest Unit 3:

- ***Location "E":*** The un-named creek flowing through this unit is a Class 1 stream. A "Class 1 stream segment" is a stream that supports fish; or normally *has surface flow during 6 months* of the year or more; *and contributes* to another stream, lake, or other body of water.

  Retention of Trees in the SMZ/Clearcutting, Rule 5: (36.11.305), subsection 2(a) states that on each side of a class 1 stream segment retain 50% of the trees greater than or equal to 8 inches dbh, or 10 trees greater than or equal to 8 inches dbh in each 100 lineal feet of the SMZ, whichever is greater.

  (a) If less than 10 trees greater than or equal to 8 inches dbh are present in any 100 lineal foot segment of the SMZ, then a minimum of 10 trees of the largest diameter available must be retained in that segment.

  (b) Trees retained must be representative of the species and size of trees in the pre-harvest stand; and

  (c) Shrubs and sub-merchantable trees must be protected and retained in the entire SMZ to the fullest extent possible when conducting forest practices in the SMZ.

  A Site-specific Alternative Practice as defined by Rule 10: (36.11.310) ***is required*** at map locations "E". An Alternative Practice to Rule 4: (36.11.304), Equipment Operation in the SMZ would be allowed provided the following mitigation measures are adhered to:

(1) All harvesting would take place during snow covered, frozen ground conditions, which normally takes place between December 15th and March 15th each year.

(2) A snow/ice bridge would be constructed in/over the stream channel to protect the bed and banks. If the "Ice Bridge" begins to break-up from use, a log bundle may be placed in the stream channel for protection. Logs used would be large diameter and of suitable length so as to be secure while in use.

All material placed in the stream channel and accumulated debris at the crossing location would be removed immaterially upon completion of harvesting or prior to March 15th, which ever came first.

(3) Crossing of the stream channel would be at a 90º angle for a distance of 35 feet on either side to prevent unwanted damage to the SMZ. Entrance an exit into the SMZ would be as quick as possible using the criteria listed above.

(4) Trees that may fall across the stream channel as part of the logging operation would need to be fully suspended when removing to prevent damage to the streambed and banks. Limbs, branches, and other debris that may fall into the stream channel should be removed immediately.

(5) Any locations that have soil disturbance would require grass seeding with approved seed mixtures to reduce potential sediment runoff.

(6) Soil rutting in excess of 1 inch would not be allowed. Logging contractor must be aware of site conditions at all times, being proactive in his/her decision making to prevent rutting.

If the ground is soft, measures to solidify the area would be taken. Using a tracked machine with low ground pressure/sq inch to trample the snow down without rutting, should drive the frost into the ground. Operating during cooler morning periods may me necessary to prevent ground break-up as well.

(7) If sediment delivery to the stream channel is possible due to soil disturbance along the skid trail, a slash-filter wind-row would need to be constructed. This slash-filter wind-row would be at a 90º angle to the skid trail, and parallel the ordinary high water mark at a distance of 10 feet.

In addition, a sufficient amount of slash and other debris would be placed on top of the skid trail for a distance of 35 feet in either direction from the stream channel. The slash would be trampled to make sure it was in contact with the ground, acting as an effective sediment filter.

(8) Forest products would be decked, and slash placed outside the SMZ to reduce impacts to the soil and vegetation.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Harvest operations would be conducted during periods of snow covered, frozen ground conditions, which normally takes place between December 15th and March 15th each year. Degradation to the soil should be minimal due to restrictions and relatively small amount of forest products being cut. Mitigation measures such as grass seeding exposed soil areas, constructing slash-filter windrows, and placing slash-derbies on skid trail would be done to reduce the potential of sediment runoff.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Is it possible that implementing this Alternative Practice would impact the integrity of the SMZ and these specific functions?

1. Ability to act as an effective sediment filter.
2. Ability to provide shade to regulate stream temperature.
3. Protection of stream channel and banks.
4. Ability to provide large woody debris for eventual recruitment into the stream to maintain riffles, pools and other elements of channel stability.
5. Promotes floodplain stability.

The proposed project would be implemented during snow covered, frozen ground conditions and should not adversely impact the six functions of a SMZ, as identified in the SMZ law (77-5-301[1] MCA).

1. Harvest operation would take place during snow covered, frozen ground conditions. Because of this and the small amount of product being harvested, minimal disturbance to the soil is expected. If soil displacement would happen, the area in question would be grass seeded immediately following the harvest to re-establish vegetation.

2. It is anticipated that temperatures within the stream would not increase as a result of timber harvesting due to the amount of existing vegetation being retained.

3. Mitigation measures such as ice bridges/log bundle crossings would be utilized to protect stream bed and banks. These devices would be removed immediately following timber harvesting operations or prior to March 15th, which ever came first.

4. Tree retention guidelines as identified in Rule 5: (36.11.305) would be maintained to appropriate levels for each stream classification.

5. Harvest would coincide with minimal seasonal flow periods with maintained vegetation slowing spring runoff.

6. AIR QUALITY:
What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

None.

7. VEGETATION COVER, QUANTITY AND QUALITY:
What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Implementation of alternatives practices with proposed mitigation measures should not dramatically impact vegetative communities within the SMZ due to the relatively small scope of this project.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.
Would implementing this Alternative Practice impact the ability of the SMZ to support diverse and productive aquatic and terrestrial habitats?

Implementation of alternatives practices with proposed mitigation measures should not dramatically impact terrestrial, avian and aquatic life and habitat within the SMZ due to the relatively small scope of this project.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

Implementation of alternatives practices with proposed mitigation measures should not dramatically unique, endangered, fragile or limited environmental resources within the SMZ due to the relatively small scope of this project.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

None.

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

None.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

None.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

Montana D.O.T. has additional information pertaining to this project on file at their office.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

None.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

None.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

None.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

None.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

None.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

None.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

None.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

None.

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

None.

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

None.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

None.

EA Checklist Prepared By:	**Name:**	Shawn P. Morgan	**Date:**	2/6/08
	Title:	Helena Unit Forester		

V. FINDING

25. ALTERNATIVE SELECTED:

I have selected Alternative B to allow equipment operation in the SMZ under the following conditions:

Locations "B" and "E":

(1) All harvesting would take place during snow covered, frozen ground conditions, which normally takes place between December 15th and March 15th each year.

(2) A snow/ice bridge would be constructed in/over the stream channel to protect the bed and banks. If the "Ice Bridge" begins to break-up from use, a log bundle may be placed in the stream channel for protection. Logs used would be large diameter and of suitable length so as to be secure while in use.

All material placed in the stream channel and accumulated debris at the crossing location would be removed immaterially upon completion of harvesting or prior to March 15th, which ever came first.

(3) Crossing of the stream channel would be at a 90º angle for a distance of 35 feet on either side to prevent unwanted damage to the SMZ. Entrance an exit into the SMZ would be as quick as possible using the criteria listed above.

(4) Trees that may fall across the stream channel as part of the logging operation would need to be fully suspended when removing to prevent damage to the streambed and banks. Limbs,

branches, and other debris that may fall into the stream channel should be removed immediately.

(5) Any locations that have soil disturbance would require grass seeding with approved seed mixtures to reduce potential sediment runoff.

(6) Soil rutting in excess of 1 inch would not be allowed. Logging contractor must be aware of site conditions at all times, being proactive in his/her decision making to prevent rutting.

If the ground is soft, measures to solidify the area would be taken. Using a tracked machine with low ground pressure/sq inch to trample the snow down without rutting, should drive the frost into the ground. Operating during cooler morning periods may me necessary to prevent ground break-up as well.

(7) If sediment delivery to the stream channel is possible due to soil disturbance along the skid trail, a slash-filter wind-row would need to be constructed. This slash-filter wind-row would be at a 90º angle to the skid trail, and parallel the ordinary high water mark at a distance of 10 feet.

In addition, a sufficient amount of slash and other debris would be placed on top of the skid trail for a distance of 35 feet in either direction from the stream channel. The slash would be trampled to make sure it was in contact with the ground, acting as an effective sediment filter.

(8) Forest products would be decked, and slash placed outside the SMZ to reduce impacts to the soil and vegetation.

Locations "C" and "D":

(1) All harvesting would take place during snow covered, frozen ground conditions, which normally takes place between December 15th and March 15th each year.

(2) Trees that may fall across the stream channel as part of the logging operation would need to be fully suspended when removing to prevent damage to the streambed and banks. Limbs, branches, and other debris that may fall into the stream channel should be removed immediately.

(3) Any locations that have soil disturbance would require grass seeding with approved seed mixtures to reduce potential sediment runoff.

(4) Soil rutting in excess of 1 inch would not be allowed. Logging contractor must be aware of site conditions at all times, being proactive in his/her decision making to prevent rutting.

(5) If sediment delivery to the stream channel is possible due to soil disturbance along the skid trail, a slash-filter wind-row would need to be constructed. This slash-filter wind-row would be constructed parallel the stream channel and at a distance of 10 feet.

(6) Forest products would be decked, and slash placed outside the SMZ to reduce impacts to the soil and vegetation.

(7) Crossing the stream channel at both locations should not be necessary as the skid trail would go above the culvert on stable ground.

Locations "A":

May operate under a pre-approved alternative at location "A" as defined in the Administrative Rules of Montana 36.11.304 (3).

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

Measures Recommended To Mitigate Potential Impacts: None expected. See Section 25 of this document, mitigation measures.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:						
		EIS		More Detailed EA	**X**	No Further Analysis

EA Checklist Approved By:	**Name:**	D.J. Bakken		
	Title:	Helena Unit Manager		
Signature:	/s/ Darrel J. Bakken		**Date**:	1/7/08

ATTACHMENTS

SMZ Alternative Practice Map